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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,759	11/29/2001	Peter Larsson	040001-128	2032
27045	7590	08/23/2005	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024				CORRIELUS, JEAN B
ART UNIT		PAPER NUMBER		
				2637

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/995,759	LARSSON, PETER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jean B Corielus	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 26 May 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-8,10-22,24-30,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 13-15,19 and 27 is/are rejected.
- 7) Claim(s) 1-8,10-12,16-18,20-22,24-26,28-30,32 and 33 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 November 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

### Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step or means for cyclically rotating the inverse discrete Fourier transformed sequence for the first antenna, as recited in the base claims, as for the method steps, it is recommended that a flowchart be used to show each method step, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

In addition, descriptive language should be used along each reference number to identify each element of the drawing. For instance, fig. 6, a descriptive language such as "AGC" can be used along reference number 612 to identify such element as such. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

Art Unit: 2637

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "the step or means for cyclically rotating the inverse discrete Fourier transformed sequence for the first antenna", as recited in the base claims, does not have proper antecedent basis in the specification.

***Claim Objections***

3. Claims 1-8, 10-22, 24-30, 32 and 33 are objected to because of the following informalities:

Claim 1, line 10, what does it mean by "a number of predetermined steps"?

Similar comment applies respectively to claims 2, 16, 24, 32 and 33, reciting similar limitation.

Claim 2, line 15, "cyclically rotated" should be inserted before "transmitted" so as to be consistent with antecedent in the third step. If such suggestion is adopted by applicant, claim 1 will be the mirror image of claim 2. Therefore a potential 101 statutory double patenting rejection will exist. Such double patenting rejection can be avoided by canceling claim 1.

Claim 5, line 2, what does it mean by “the distance between each step is greater than a delay spread”? in addition, is the limitation “each step” recited in claim 5 refers to “the first/ second/ third/ fourth”, recited in claim 2?

Claim 8, line 3, what does “fixed predetermined ranges” intend to mean? the same comment applies to claims 22 and 30.

claim 6, line 6, what does it mean by “separated regions”? similar comment applies to other claims reciting similar limitation?

Claim 10, lines 3-4, “what does it mean by “operating methods of primarily equalizer and FEC decoder”?

Claim 16, line 5, “receiver” should be “receiving”. In addition, a goal to “a system” is set forth in the preamble. However, the body of the claim does not recite any structure relating to the system. The claim recites only a series of steps and appears to be “a method claim” rather than a “system claim”.

As per claim 20 see claim 5.

As per claim 22 see claim 8 .

The dependency of claim 25 should be changed from “23” to “ 24” as claim 23 is a canceled claim. claim 25, line 2, “a” should be “an”.

Claim 26, line 2, “characterized by” should be replaced by “further comprising”.

As per claim 32, a goal to “a system” is set forth in the preamble. However, the body of the claim does not recite any structure relating to the system. The claim recites only a series of steps and appears to be “a method claim” rather than a “system claim”.  
line 5, “receiver” should be “receiving”.

As per claim 33, line 5, "receiver" should be "receiving".

Note that any claim whose base claim is objected is likewise objected.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-15, 19 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13, line 2, "said filter inversion" lacks of proper antecedent basis. The same comment applies to claim 12.

Claim 14, line 5, "the window function" lacks of proper antecedent basis. The same comment applies to the limitations " the phase and amplitude values" and "the result".

As per claim 15, line 3 and line 4, the limitations " the phase and amplitude values" and "the result", lacks of proper antecedent basis, respectively.

Claim 19, line 2, recites "each step" . However, it is noted that claim 19 is a system claim that does not include "steps". therefore, it is unclear as to what "steps) the limitation refers to.

Claim 27, line 2, recites "each step" . However, it is unclear as to what "step applicant refers to.

***Double Patenting***

5. Claims 1, 32 and 33 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 2, 16 and 24, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Allowable Subject Matter***

6. Claims 13-15, 19 and 27 would be allowable if amended to overcome the 112 rejection and/or claim objection as set forth above.

Claims 2-8, 10-12, 16-18, 20-22, 24-26 and 28-30 would be allowable if amended to overcome the objection set forth above.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B Cornelius  
Primary Examiner  
Art Unit 2637 8/20/05